SEI Training

ATAM Evaluator Training

You will learn how to contribute to evaluation teams in SEI-authorized Architecture Tradeoff Analysis

Most complex software systems must be modifiable and perform well. They might also need to be secure, interoperable, portable, and reliable. But

- What precisely do quality attributes such as modifiability, security, performance, and reliability mean?
- Can a system be analyzed to determine whether it has certain desired qualities?
- How soon can such analysis occur?
- How do you know if software architecture for a system is suitable without having to build the system first?

The SEI Architecture Tradeoff Analysis Method (ATAM) is a proven, highly effective method for systematically evaluating software architectures for fitness of purpose. The ATAM exposes architectural risks that potentially inhibit the achievement of quality attribute goals and the system's business and mission goals. Government and industry organizations have used the ATAM for more than 10 years to improve communication, expose architectural risks, clarify requirements, and produce better systems.

This two-day ATAM course prepares software architects to conduct a software architecture evaluation using the ATAM. Through lectures and highly interactive exercises, participants learn the ATAM and how to apply it to evaluate software architectures. A significant portion of the course is dedicated to participants performing an ATAM evaluation exercise with guidance from instructors. This course is based on the book *Evaluating*

Software Architectures: Methods and Case Studies.

Who should attend?

- anyone who is responsible for or involved in evaluating software architectures, such as software architects, system architects, software designers, and system designers
- individuals who want to participate in SEI-authorized ATAM evaluations

Topics

The course is intended to mimic an evaluation of a fictitious but realistic system. Participants play roles as stakeholders and evaluation team members during the exercises. The two days of the course are modeled after the two phases of the ATAM. Topics include

- overview of the ATAM
- software architectures and quality attributes
- Phase I activities of the ATAM
- exercise Phase I activities
- preparation for and activities of Phase II of the ATAM
- critique and discussion of participants' Phase I findings

Objectives

This course provides attendees with a thorough examination of the ATAM. After attending this course, participants will have a better understanding of

- quality attributes and their role in software architectures
- quality attribute tradeoffs

- why architecture analysis is important
- how to execute an ATAM evaluation, in particular
  - the steps of the ATAM
  - participant roles and responsibilities of the various participants
  - the artifacts created during the evaluation

Completion of this course is a requirement of the ATAM Evaluator Certificate and to be a team member for SEI-authorized ATAM evaluations.

Prerequisites

Before registering for this course, participants must

- have significant experience in designing and developing software-reliant systems
- be familiar with modern software engineering concepts
- complete the Software Architecture: Principles and Practices course, which is available as instructor-led classroom training and as eLearning

Materials

In addition to the lecture slides, participants receive hard copies of the ATAM Reference Guide (a very detailed description of ATAM activities), the document templates and surveys used to conduct the ATAM evaluation, and the book *Evaluating Software Architectures: Methods and Case Studies*.

Schedule

This 2-day course meets at the following times:

Days 1–2, 8:30 a.m.–5:00 p.m. (U.S. locations)
Days 1–2, 9:00 a.m.–5:30 p.m. (non-U.S. locations)

Related Web Sites

www.sei.cmu.edu/training/p31.cfm
www.sei.cmu.edu/training/certificates/architecture

For Course Registration

www.sei.cmu.edu/training/registration/

For General Information

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